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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/578,282

11/16/2007

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EXAMINER

BUCKLEY, AUDREA

ART UNIT

PAPER NUMBER

1617

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/578,282	BALAKRISHNAN ET AL.	
	Examiner	Art Unit	
	AUDREA BUCKLEY	1617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 60-81 is/are pending in the application.
- 4a) Of the above claim(s) 73-81 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 60-72 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/4/2011</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicants' response dated January 13, 2011 in response to the non-final Office action mailed September 13, 2010 has been entered. Claims 55, 58, and 59 were previously canceled; claims 1-54, 56, and 57 are newly canceled. New claims 58-79 were added.

Claims 58-79 are pending.

Election/Restrictions

It is noted that Applicant has not indicated which of the newly added claims are readable upon the elected species; see MPEP 809.02(a) and the last sentence on page 2 of the restriction requirement mailed 9/14/2009. Applicant's statement that "the applicant respect which reverses the Examiner's continued requirement..." in the first sentence of the Remarks filed 1/13/2011 is unclear and confusing. Applicant concludes that because all of the prior claims have been canceled, the restriction requirement is moot (see second paragraph of page 1 of Remarks filed 1/13/2011); Applicant's conclusion is in error.

Newly submitted claims 71-79 are directed to an invention that is independent or distinct from the invention originally claimed and examined for the following reasons: unity of invention is broken since all claims are generic to a cellulosic substrate (for the intended purpose of controlling flying insects) comprising a pyrethroid and a carrier solvent, and this technical feature is included in all of the groups as outlined in the restriction requirement of September 14, 2009. The cellulosic substrate comprising a pyrethroid and

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carrier solvent does not define a contribution over the prior art, therefore, it is maintained in accordance with the restriction requirement of 9/14/2009 (see first paragraph, page 3) that unity of invention has been broken since claims 71-75 are directed to a flying insect control article, claims 76 and 77 are directed to a method for controlling flying insects, and claims 78 and 79 are directed to a method of packaging a cellulosic based substrate or matrix.

Since applicant has received an action on the merits for the originally presented invention (the cellulosic substrate as in claim 4 of the claims dated 2/7/2007), this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 71-79 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claims 58-70 are under current examination.

Priority

This application is a 371 of PCT/GB04/04692, filed 11/5/2004, and claims priority to foreign applications 0326053.6 filed in the United Kingdom on 11/7/2003. Certified copies of these documents have not been received by the USPTO.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on March 4, 2011 has been considered by the examiner.

Withdrawn Rejections

The rejection of claim 4 under 35 U.S.C. 103(a) as being unpatentable over Ishiwatari et al. in view of Sembo et al. as evidenced by Takada is withdrawn in light of Applicant's cancelation of this claim in the amendments filed 1/13/2011.

The rejection of claim 5 under 35 U.S.C. 103(a) as being unpatentable over Ishiwatari et al. in view of Sembo et al. as evidenced by Takada and further in view of Hoffmann et al. is withdrawn in light of Applicant's cancelation of this claim in the amendments filed 1/13/2011.

The rejection of claims 4 and 5 as being provisionally rejected over claim 1 of copending Application No. 10/577,910 in view of Ishiwatari et al. in view of Sembo et al. and Hoffman et al. is withdrawn in light of Applicant's cancelation of these claims in the amendments filed 1/13/2011.

Response to Arguments

Regarding the prior art rejections of claims 4 and 5, Applicant argues that the rejections of record are moot. In reply, the previously cited references have been applied to the new claims as appropriate in the following rejections under 35 U.S.C. 103(a).

Regarding the provisional, non-statutory obviousness-type double patenting rejection of the claims in view of copending application 10/577,910 in view of Ishiwatari, it is noted that this rejection has been withdrawn since claims

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4 and 5 have been canceled. However, it is noted that this rejection was not improper, as asserted by the Applicant, on account of the provisional nature of the rejection.

Claim Objections

The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 58-79 must be renumbered 60-81.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 63 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 63, the phrase "preferably at a temperature in the range..." in the last line of the claim renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 58-62, and 64-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishiwatari et al. (EP 0792581 A1, published 1997, submitted in IDS of 6/5/2006) in view of Sembo et al. (US 2001/0049390 A1, published Dec. 2001) as evidenced by Takada (US 5,629,334, issued May 1997).

Ishiwatari et al. teach an insect control device in which at least one volatile insecticidal or insect repellent compound such as transfluthrin is applied on a support with acetone as a solvent. The active agent is then distributed by evaporation (see page 2, lines 24-30). The support used may be paper (cellulosic), a soft paper which is preferred because it provides easy fabrication and impregnation of the active agent (see page 2, lines 54-56). It is noted that Ishiwatari et al. teach Example 1 using a carboxylate active agent in acetone on a filter paper substrate (see page 3, lines 25-30) and that Ishiwatari et al. teach this particular carboxylate pyrethroid to be equivalent to transfluthrin (see page 2, lines 27 and 29). Therefore, the substitution of transfluthrin for this carboxylate pyrethroid would have been obvious; see MPEP 2144.06 regarding the obviousness of equivalents.

As to the functional claim language regarding the carrier solvent (evaporation rate, boiling point, polarity index, release rate), Ishiwatari does not limit the solvent as instantly recited. Example 1 of Ishiwatari teaches acetone as an acceptable carrier solvent (see specification, page 21, line 27). Similarly, regarding claims 58, 59, 61, 62, 69, and 70, Sembo et al. teach non-aromatic hydrocarbons and acetone to be exchangeable alternative liquid carriers (see

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paragraph [0011]) in insecticidal compositions comprising an active agent such as a pyrethroid including transfluthrin (see [0023]) or the chrysanthemate in Formulation Example 2 (see [0027]). Formulation Example 2 teaches the chrysanthemate active in the hydrocarbon carrier Isopar-G which meets the instantly recited functional limitations (see [0027] of Sembo and see Table 1 on page 28 of the substitute specification as filed 5/4/2006). As evidenced by Takada, chrysanthemate derivatives are examples of pyrethroid compounds (see abstract in particular).

It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use the Isopar G carrier as taught in the pyrethroid containing formulation of Sembo in place of the acetone carrier in Example 1 of Ishiwatari. See MPEP 2144.06 regarding the obviousness of equivalents.

Regarding the surface area range of 50-5000 cm² as in pending claim 60, Ishiwatari teaches that the support with plural through holes may have about ten to about a thousand holes each having a cross-sectional area of from about 0.5 to about 10 cm². So, for example, for a support having ten holes, the surface area range total would have been from about 5 to about 1000 cm². This range overlaps and would have been a starting point for subsequent routine optimization procedures. See MPEP 2144.05 regarding the obviousness of routine optimization. Regarding the quantity of vapour active pyrethroid as in claim 60, it is the Examiner's position that this quantity is a result effective variable because changing it will clearly affect the type of product obtained. See

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MPEP 2144.05(B). Case law holds that “discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art.” See *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In view of this, it would have been obvious to one of ordinary skill in the art to utilize appropriate quantities of pyrethroid active agent, including those within the scope of the present claims, so as to produce desired end results. Further, one would have been motivated to do so based on the surface area taught by Ishiwatari as well as the surface area to volume ratio as taught by Ishiwatari (see page 2, lines 57 through page 3, line 1; see also, page 2, lines 33-36).

Regarding the honeycomb arrangement of the cellulosic based substrate as in claims 66 and 67, it is noted that the selection of the substrate shape would have been within the skill of the ordinary artisan and would have been an obvious matter of design choice. For instance, one would have been motivated to adjust the substrate shape in order to increase or decrease the surface area and therefore active agent release properties of the product, in accordance with the teaching of Ishiwatari as outlined above (Ishiwatari page 2, lines 24-30).

Nonetheless, Ishiwatari teaches a honeycomb structure sandwiched between plane members (see page 2, lines 43-45) which one of ordinary skill in the art would have been motivated to optimize.

The rate of release at certain temperatures as recited in claims 64 and 65 is considered to be an inherent feature of the structure of the claimed substrate, which is obvious in view of the cited references, as discussed above. See MPEP 2112.01.

Claim 68 recites the claim language “wherein the flying insects are mosquitoes”. This language refers to the antecedent “flying insects” in line 1 of claim 58. Claim 58 recites that it is a cellulosic based substrate or matrix “for controlling insects” which is being claimed. The combined references render obvious an insect control device with the same structure as claimed, and absent evidence to the contrary, this intended use does not structurally, or otherwise, distinguish the claimed device from the one rendered obvious by the combined references.

Claim 63 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishiwatari et al. (EP 0792581 A1) in view of Sembo et al. (US 2001/0049390 A1, published Dec. 2001) as evidenced by Takada (US 5,629,334, issued May 1997) as applied to claims 58-62, and 64-70 above, and further in view of Hoffmann et al. (US 2003/0198659 A1, filed Oct. 2002).

Neither Ishiwatari et al. nor Sembo teach the particular metofluthrin pyrethroid as in pending claim 63. However, Hoffmann et al. teach metofluthrin to be a pyrethroid active agent equivalent to transfluthrin ([0134] lines 14 and 17 on page 11).

Therefore, substituting metofluthrin for transfluthrin in the formulations of Ishiwatari and Sembo would have been obvious. MPEP 2144.06 indicates that when it is recognized in the art that elements of an invention can be substituted, one for the other, while retaining essential function, such elements are art-recognized equivalents.

Conclusion

No claims are allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AUDREA J. BUCKLEY whose telephone number is (571)270-1336. The examiner can normally be reached on Monday-Thursday 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fereydoun Sajjadi can be reached on (571) 272-3311.

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The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/AJB/

/Richard Schnizer/
Primary Examiner, Art Unit 1635